

1. IDENTIFICATION

Product Name	Nitric Acid 65-70% Solution
Other Names	Nitric Acid 65-70%
Uses	- Cosmetics - Metal surface treatment - Rust removal - Raw material of gunpowder explosives
Chemical Family	No Data Available
Chemical Formula	HNO ₃
Chemical Name	Nitric Acid 65-70% Solution
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	2132A E. Dominguez Street Carson CA 90810 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) 6

Globally Harmonised System

Hazard Classification	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Hazard Categories	Skin Corrosion/Irritation - Category 1A Serious Eye Damage/Irritation - Category 1 Specific Target Organ Toxicity (Single Exposure) - Category 1 Specific Target Organ Toxicity (Repeated Exposure) - Category 1 Aspiration Hazard - Category 1 Oxidising Liquids - Category 3 Corrosive to Metals - Category 1 Acute Toxicity (Inhalation) - Category 1

Pictograms



Signal Word Danger

Hazard Statements	<p>H272 May intensify fire; oxidizer.</p> <p>H290 May be corrosive to metals.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H314 Causes severe skin burns and eye damage.</p> <p>H318 Causes serious eye damage.</p> <p>H330 Fatal if inhaled.</p> <p>H370 Causes damage to organs.</p> <p>H372 Causes damage to organs through prolonged or repeated exposure.</p>
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Precautionary Statements	<p>P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.</p> <p>P221 Take any precaution to avoid mixing with combustibles.</p> <p>P260 Do not breathe fume/gas/mist/vapours/spray.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection and suitable respirator.</p>
Response	<p>P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.</p> <p>P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P307 + P311 IF exposed: Call a POISON CENTER or doctor/physician.</p> <p>P331 Do NOT induce vomiting.</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P370 + P378 In case of fire: Use any suitable means for extinguishing surrounding fire. Spray water for small fires. For large fires flood with abundant water.</p> <p>P390 Absorb spillage to prevent material damage.</p>
Storage	<p>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p> <p>P406 Store in corrosive resistant container with a resistant inner liner.</p>
Disposal	<p>P501 Dispose of contents/container in accordance with local / regional / national / international regulations.</p>

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification

Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Physical Hazards	5.1.1C	Oxidising substances that are liquids or solids: low hazard
	Health Hazards	6.1D	Substances that are acutely toxic - Harmful
		6.9B	Substances that are harmful to human target organs or systems
		8.1A	Substances that are corrosive to metals
		8.2B	Substances that are corrosive to dermal tissue UN PGII
		8.3A	Substances that are corrosive to ocular tissue

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Nitric acid	No Data Available	7697-37-2	65 - 70 %
Water	No Data Available	7732-18-5	30 - 35 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.
Eye	Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention.
Skin	Remove contaminated clothing and shoes. Immediately flush affected area with plenty of water for at least 15 minutes. Seek immediate medical attention. Wash clothing before reuse. Thoroughly clean or destroy contaminated shoes.
Inhaled	Remove victim from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth to mouth method. Induce artificial respiration with the aid of a pocket mask equipped with a one way valve or other proper respiratory medical device. Seek medical attention immediately.
Advice to Doctor	Do not wash the stomach or induce vomiting. In case of inhaling chemicals, consider oxygen supply.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after the fire is out. Stay upwind and keep out of low areas.
Flammability Conditions	No Data Available Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing Media	SMALL FIRE: Use CO2, dry chemical, dry sand or flooding quantities of water. LARGE FIRE: Flood fire area with large quantities of water while knocking down vapours with water fog.
Fire and Explosion Hazard	Contact with oxidizer or combustible material would lead to ignition or explosion.
Hazardous Products of Combustion	Nitrogen Oxide.
Special Fire Fighting Instructions	Use water spray to reduce vapours. Don't scatter spilled material with high-pressure water streams. Do not get water inside containers. Try not to get water directly on material.
Personal Protective Equipment	Wear SCBA and chemical splash suit. Structural firefighter's uniform is NOT effective for these materials.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	2R

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Avoid contact with combustible material. Keep away from incompatible products. Ventilate enclosed spaces before entering.
Clean Up Procedures	Cover with DRY earth, and or other non-combustible material. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.
Containment	Stop leak if possible without personal risk. Prevent entry into waterways, drains or confined areas. Use water spray to reduce vapours. Build a dike to trap the leak. Absorb using sand or other non-combustible materials.
Environmental Precautionary Measures	Notify the appropriate authorities (government departments/ a local government) in case of discharge.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
Personal Precautionary Measures	Wear SCBA and chemical splash suit.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection/face protection. Wear respiratory protection. Do not breathe mist, vapour and spray. Take cautions because the chemical could cause skin corrosion. Be cautious about heated reaction and fugitive dust when mixed with other substances.
Storage	Protect from direct sunlight and store in a closed container. Keep on the concrete floor of corrosion resistance. Store in a cool and well-ventilated area. Keep away from combustible and incompatible materials (see Section 10). Keep away from heat and sources of ignition.
Container	Store in original packaging as approved by manufacturer. Do not store in metal containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	Safe Work Australia (SWA) Exposure Standard for Nitric acid (CAS No. 7697-37-2): TWA = 2 ppm or 5.2 mg/m ³ STEL = 4 ppm or 10 mg/m ³ Time weighted average exposure standard (TWA) means the average airborne concentration of a substance over an eight-hour working day, for a five-day working week. Short term exposure limit (STEL) means the average airborne concentration of a substance calculated over a 15 minute period. The STEL should not be exceeded at any time during a normal eight hour working day.
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local

exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded.

Personal Protection Equipment RESPIRATOR: If engineering controls and work practices are not effective in controlling exposure to this material, wear suitable personal protective equipment including approved respiratory protection (AS1715/1716).
EYES: Wear safety goggles. A face shield may also be necessary (AS1336/1337).
HANDS: Wear appropriate chemical resistant gloves (AS2161).
CLOTHING: Wear chemical-resistant clothing and safety footwear (AS3765/2210).

Work Hygienic Practices Provide eyewash station and safety shower. Do not get in eyes, on skin or on clothing. Remove and wash contaminated clothing promptly. Launder contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Irritating
Colour	Colourless to yellow
pH	No Data Available
Vapour Pressure	47.9 torr (@ 20 °C)
Relative Vapour Density	3.2
Boiling Point	83 °C
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	9.09 g/100 mL 25°C
Specific Gravity	1.398
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	-42 °C
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	63.01
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	-2.3 @ 25°C
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	746 cP (@ 25 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	Incombustible.
Potential for Dust Explosion	Not applicable - product is a liquid.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No Data Available

Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

Chemical Stability	Contact with water could cause exothermic reaction.
Conditions to Avoid	Avoid heat and sources of ignition.
Materials to Avoid	Combustible materials, acids, bases, oxidisers, halo carbonate compounds, metallic oxides, metals, reducing agents, amines.
Hazardous Decomposition Products	Nitrogen oxide.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	SKIN CORROSION/IRRITATION: Causes severe skin burns. SERIOUS EYE DAMAGE/IRRITATION: Causes serious eye damage. SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE): Causes respiratory irritation, coughing, shortness of breath. SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): Chronic bronchitis and erosion of tooth. ASPIRATION HAZARD: Causes chemical pneumonia by aspiration.
Acute	
Inhalation	ACUTE TOXICITY - INHALATION Rat (4 hr) LC50: 0.17 mg/l (67 ppm)
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Fish LC50: 2,800 mg/L (96 hr) Rainbow trout, Donaldson trout. Crustacean LC50: 16,000 mg/L (48 hr) Cyclops.
Persistence/Degradability	No information available.
Mobility	No information available.
Environmental Fate	No information available.
Bioaccumulation Potential	17,560 ug/L 30 hr BCFD (Residual) Water slater 0.87 ug/L
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with all local, state and federal regulations.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	NITRIC ACID other than red fuming, with at least 65% but not more than 70% nitric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	5.1 Oxidising Substances
EPG	40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive
UN Number	2031
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Land Transport (Malaysia)

ADR

Proper Shipping Name	NITRIC ACID, other than red fuming, with at least 65%, but not more than 70% nitric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	5.1 Oxidising Substances
EPG	40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive
UN Number	2031
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	NITRIC ACID other than red fuming, with at least 65% but not more than 70% nitric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	5.1 Oxidising Substances
EPG	40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive
UN Number	2031
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	NITRIC ACID other than red fuming, with at least 65% but not more than 70% nitric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	5.1 Oxidising Substances
ERG	157 Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)
UN Number	2031
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	NITRIC ACID other than red fuming, with at least 65% but not more than 70% nitric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	5.1 Oxidising Substances
UN Number	2031
Hazchem	2R
Pack Group	II
Special Provision	No Data Available
EMS	FA,SQ
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	NITRIC ACID other than red fuming, with at least 65% but not more than 70% nitric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	5.1 Oxidising Substances
UN Number	2031
Hazchem	2R
Pack Group	II
Special Provision	A1

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information No Data Available

Poisons Schedule (Aust) 6

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code HSR100763

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Listed
China (IECSC)	Listed
Europe (EINECS)	Not Determined

Europe (REACH)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (EHS Register)	Listed
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes NIACIB2000, NIACIB6500, NIACIB9800, NIACID0100, NIACID0200, NIACID0500, NIACID0700, NIACID1000, NIACID1001, NIACID1002, NIACID1003, NIACID1004, NIACID1005, NIACID1006, NIACID1007, NIACID1008, NIACID1009, NIACID1010, NIACID1011, NIACID1012, NIACID1013, NIACID1014, NIACID1015, NIACID1016, NIACID1017, NIACID1018, NIACID1019, NIACID1020, NIACID1021, NIACID1022, NIACID1023, NIACID1100, NIACID1101, NIACID1200, NIACID1400, NIACID2000, NIACID2001, NIACID5000, NIACID5500, NIACID6100, NIACID6300, NIACID6400, NIACID6500, NIACID6600, NIACID6700, NIACID7000, NIACID7100, NIACID7200, NIACID7500, NIACID7700, NIACID7800, NIACID8000, NIACID8100, NIACID8200, NIACID8500, NIACID8900, NIACID9000, NIACID9100, NIACID9200, NIACID9300, NIACID9400, NIACID9500, NIACID9501, NIACID9600, NIACID9700, NIACID9800, NIACID9900, NIACID9801, NIACID1111, NIACID9802, NIACID6801, NIACID1823, NIACID1828, NIACID6828, NIACID0101, NIACID0128, NIACID1110, NIACID6511, NIACID1150, NIACID6501, NIACID5501, NIACID0129, NIACID6510, NIACID7001, NIACID1151, NIACID6512, NIACID9810, NIACID6513, NIACID5502, NIACID6514, NIACID1152, NIACID5513, NIACID5510, NIACID1153, NIACID5550, NIACID5512, NIACID5514, NIACID5503, NIACID9701, NIACID7010, NIACID9120, NIACID9130, NIACID5555, NIACID1154, NIACID1113, NIACID5528, NIACID5521, NIACID6515, NIACID6521, NIACID1889, NIACID1898, NIACID1891, NIACID1892, NIACID5518

Revision 3

Revision Date 01 Oct 2014

Key/Legend

- < Less Than
- > Greater Than
- AICS** Australian Inventory of Chemical Substances
- atm** Atmosphere
- CAS** Chemical Abstracts Service (Registry Number)
- cm²** Square Centimetres
- CO₂** Carbon Dioxide
- COD** Chemical Oxygen Demand
- deg C (°C)** Degrees Celcius
- EPA (New Zealand)** Environmental Protection Authority of New Zealand
- deg F (°F)** Degrees Farenheit
- g** Grams
- g/cm³** Grams per Cubic Centimetre
- g/l** Grams per Litre
- HSNO** Hazardous Substance and New Organism
- IDLH** Immediately Dangerous to Life and Health
- immiscible** Liquids are insoluable in each other.
- inHg** Inch of Mercury
- inH₂O** Inch of Water
- K** Kelvin
- kg** Kilogram
- kg/m³** Kilograms per Cubic Metre
- lb** Pound
- LC50** LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
- LD50** LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50%

(one half) of a group of test animals.

ltr or **L** Litre

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

Oz Ounce

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

ppm Parts per Million

ppm/2h Parts per Million per 2 Hours

ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value

tne Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight